

Quarterly Surveillance Report

January 2006

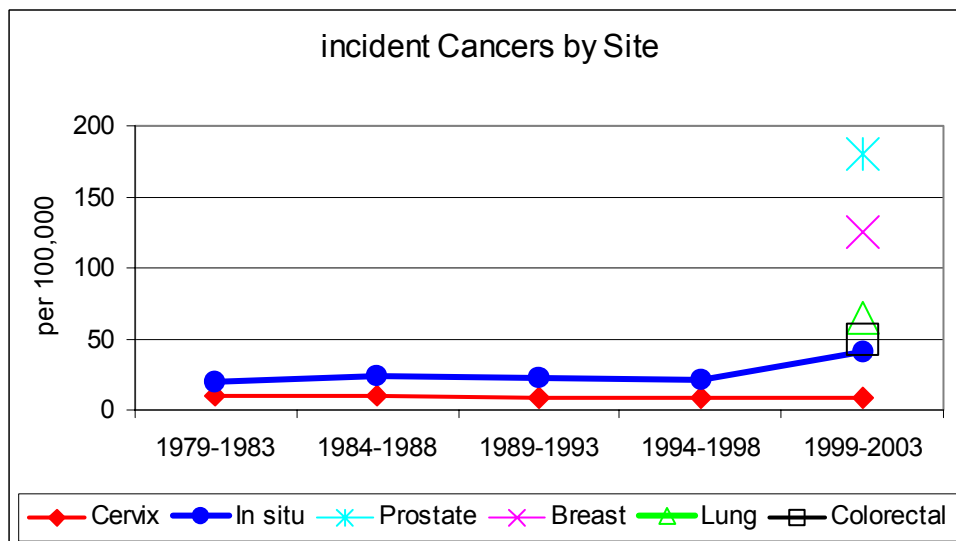
Volume 2006, number 1

Cervical Cancer in Montana

The Burden of Cervical Cancer Is Low in Montana

The incidence of new cases of invasive cervical cancer in Montana has been less than 10 per 100,000¹ for the past 25 years. It accounts for less than 1% of all incident cancers in the state and is only the 19th most common cancer in Montana. Carcinoma in situ of the cervix was about twice as common as invasive cervical cancer between 1979-83 and 1994-98, emphasizing the efficacy of systematic screening programs to reduce incidence and mortality from invasive cancer. The reported incidence of carcinoma in situ increased in 1999-2003, probably attributable to enhanced screening activities.

The incidence of the four most common sites of cancer (prostate, breast, lung, and colorectal) are 18 times, 13 times, 7 times, and 5 times greater respectively than the incidence of invasive cervical cancer in Montana.²



Survival Is Excellent When Cervical Lesions Are Detected Early

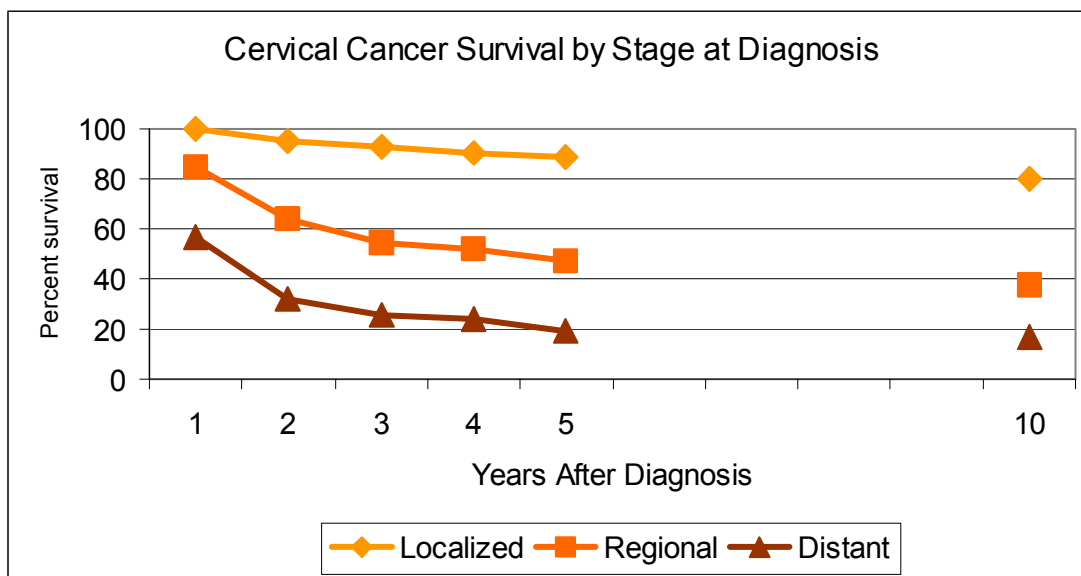
A hundred years ago, cervical cancer was the most common cause of cancer death among women. The wide use of Pap test screening (see next section) has reduced

¹ age adjusted to the 2000 population

² Montana Central Tumor Registry

Montana Cancer Control Section

mortality from cervical cancer by as much as 80% in the past century. The mortality rate for cervical cancer is now lower than that for most other sites, largely because most cases are found and treated at an early stage.



There are still more than 10,000 newly diagnosed cases of invasive cervical cancer every year in the United States and more than 4,000 deaths. In 2003 in Montana, there were 29 newly diagnosed cases of invasive cervical cancer and 12 deaths. Montana's five-year average mortality rate for cervical cancer between 1999-2003 was 2.2 per 100,000, not statistically different from the national mortality rate of 2.8 per 100,000. More than 80% of cervical cancers in Montana in the past five years were diagnosed at an early stage. However, about 14% of Montana women report that they have not had a Pap test within the past two years.³

Screening for Cervical Cancer

In the 1940s, George Papanicolaou and Herbert Traut described the technique of scraping a layer of cervical epithelium for microscopic examination to diagnose cervical cancer. The Papanicolaou (Pap) test was widely established for screening by the 1950s. The Pap test is a classic screening test because it can detect precancerous changes in the cervix at a stage when treatment is very successful.

Screening is a fundamental public health tool to reduce death and disability on a population basis. It is the process of testing many people potentially at risk to detect disease at an early stage when treatment can be most effective. Screening requires a test that is accurate, safe, acceptable to patients, easy to perform, and relatively inexpensive. Screening tests do not give definitive diagnoses. They are used to rapidly and

³ Montana Behavioral Risk Factor Surveillance System results 1998, 2000, 2002, and 2004

Montana Cancer Control Section

inexpensively identify patients who need further evaluation.

An ideal screening test is both highly sensitive (does not miss true cases) and highly specific (gives few false positive results). No screening test can simultaneously detect all true cases and eliminate all non-cases, so a balance must be struck between acceptable sensitivity and specificity. The Pap test is reasonably sensitive but has a relatively low specificity because it actually detects cervical dysplasia, which *may* progress to invasive cancer. Not all dysplasias progress. Many mild dysplasias spontaneously regress. However, all invasive cervical cancers start with dysplasia.

The Pap test is not perfectly sensitive because some dysplasias may be missed, usually because the sample is not technically adequate. The sample of cells must be well collected, large enough, contain cells from the transformation zone, and be uncontaminated with other tissue, blood, or active infection. The sample must be handled carefully, transmitted to a laboratory for interpretation, and evaluated by a pathologist or technician.

The incidence of a positive Pap screening result within one year of a prior negative result is low, and the incidence of a positive screening result after two consecutive negative results is almost zero. This, together with the fact that most cervical lesions progress slowly, suggests that annual screening for low-risk women with two or three prior technically adequate and negative tests may not be necessary. However, most physicians are inclined to screen women annually in order to maintain adequate screening coverage. In addition, many women have risk factors for cervical cancer that make it prudent for them to be screened every year.

Risk Factors for Cervical Cancer

Being sexually active and having multiple sexual partners are risk factors for cervical cancer. The presence of some strains of Human Papillomavirus (HPV) in cervical lesions was first reported in the 1980s. More than 95% of women who have cervical cancer also have evidence of persistent HPV infection, although not all strains of HPV are implicated in cervical cancer. Additionally, a large proportion of the population has a history of HPV infection and never develops cervical lesions. HPV is therefore considered a *necessary but not sufficient* risk factor for developing cervical cancer. Other risk factors for cervical cancer, independent of HPV infection, include smoking cigarettes, high parity, long-term use of oral contraceptives, and history of infection with chlamydia or herpes simplex type 2.

Future Prospects for HPV Screening and Immunization

There are now tests for the presence of many strains of HPV but the tests are not specific for cervical cancer and will not replace the Pap test. The HPV tests are also more expensive than the Pap test and have not been approved by the Food and Drug Administration (FDA) as a screening test for cervical cancer. HPV tests appear to be a

Montana Cancer Control Section

valuable second screening step for women who have an atypical Pap test with a low level of dysplasia, because it may be possible to identify women who are at high risk of progressing to cervical cancer due to persistent infections with a particular strain of HPV. Liquid-based cytology specimens (such as ThinPrep®) can be used to perform both standard cytological screening and HPV testing. Regular Pap screening, either with the standard slide preparation or with the newer liquid-based cytology techniques, remains the primary means of detecting cervical cancer or its precursors.

The association of certain strains of HPV with cervical cancer has prompted great interest in developing a vaccine against those HPV strains with the hope of preventing cervical cancer in the future. Preliminary clinical trials have shown that such vaccines may be both safe and effective, but more research is needed before HPV vaccines will be approved by the FDA. If approved, studies will be undertaken to guide practice recommendations and policy decisions about vaccination programs.

The Montana Breast and Cervical Health Program

The Montana Breast and Cervical Health Program (MBCHP) was initiated in 1996 through a cooperative agreement between the Montana Department of Public Health and Human Services and the federal Centers for Disease Control and Prevention. The mission of the MBCHP is to reduce breast and cervical cancer morbidity and mortality by providing ongoing quality screening services and education in a manner that is appropriate, accessible, cost-effective, and sensitive to women's needs.

The MBCHP provides mammograms and Pap tests to women between the ages of 50 and 64 years old who would otherwise rarely or never be screened, including those who are uninsured or underinsured, or have incomes below 200% of the federal poverty level. Screening and diagnostic tests are provided free to eligible women. Special efforts are made to reach women who have rarely or never been screened for cervical cancer in the past. Special efforts are also made through the American Indian Screening Initiative. American Indians make up 6% of the population of the state and 12% of the women screened by the MBCHP.

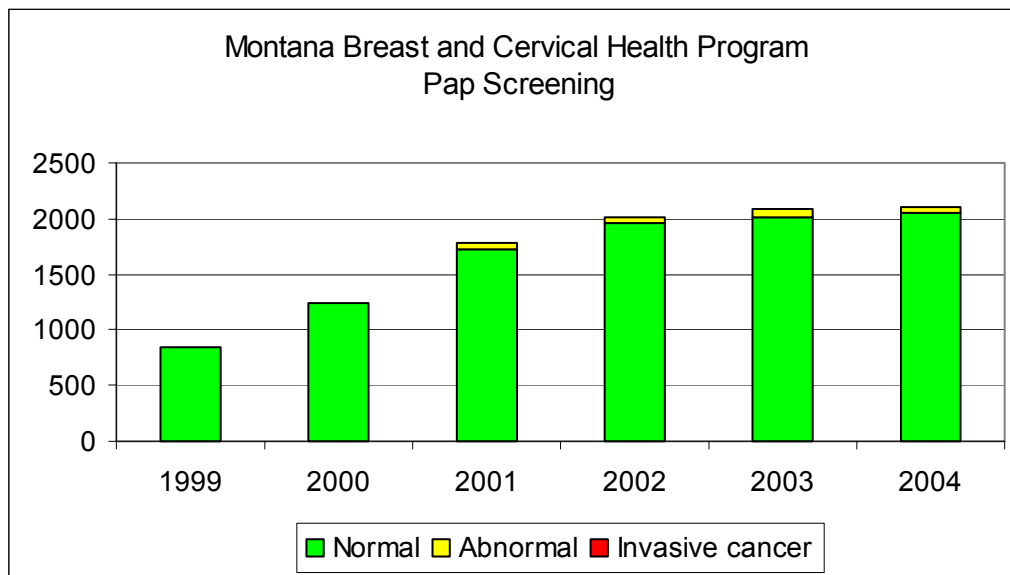
The MBCHP has established collaborative partnerships with more than 30 organizations throughout the state and has nearly 1,000 enrolled medical service provider partners. The MBCHP relies on Case Managers who provide support for enrolled women through all phases of outreach, screening, diagnosis, and follow-up services as needed.

As of June 2005, 6,813 women from all 56 counties and 7 reservations have had Pap tests provided by the MBCHP. Two percent of the women had atypical screening results requiring further diagnostic workup. Thirteen women, or one tenth of one percent of those who had a Pap test through the MBCHP program, were found to have invasive cervical cancer.

These results underscore the low incidence of cervical cancer among Montana women.

Montana Cancer Control Section

However, each case of cancer is of overwhelming importance to a woman who is diagnosed. All of the cases of invasive cervical cancer could have been identified at an earlier stage and prevented or treated more effectively if women had access to regular screening.



The MBCHP meets or exceeds the CDC Performance Indicators for its cervical screening and services. These Performance Indicators address technical quality of the services provided, promptness of diagnosis and follow-up, and reaching the target population of underserved women.

	CDC Standard	FY 2005 MBCHP Achievement
Cancer unstaged at diagnosis	≤ 10%	0
Refused treatment	< 3%	0
More than 60 days from presentation to diagnosis	≤ 25%	19%
More than 60 days from diagnosis to treatment, invasive cancer	≤ 20%	0
More than 60 days from diagnosis to treatment, CIN II or III	≤ 20%	0
Percent of services delivered to women who have not had Pap in 5 or more years	≥ 20%	24%

The MBCHP is an exemplary program and has been cited by the CDC as a model for other states to emulate. Montana was awarded \$1.9 million to provide breast and cervical health services to Montana's underserved women in 2006. The MBCHP is looking forward to its 10th anniversary in October 2006.

Montana Cancer Control Section

For more information about the **Montana Cancer Control Program**, contact Sue Miller, Supervisor, Cancer Control Section, 406-444-3624, sumiller@mt.gov

For more information about the **Montana Breast and Cervical Health Program**, contact Julie Frickel, Program Manager, 406-444-0063, jfrickel@mt.gov

For more information about the **Montana Central Tumor Registry**, contact Debbi Lemons, Program Manager, 406-666-2618, dlemons@mt.gov

For more information about **cancer data and analysis**, contact Carol Ballew, PhD, Epidemiologist, 406-444-6988, cballew@mt.gov

Alternative formats of this document will be provided upon request. Please call Dr. Ballew at 406-444-6988.

Montana Cancer Control Program
Montana Department of Health and Human Services
1400 Broadway C-317, PO Box 202951
Helena, MT 59620-2951

Costs for developing and printing this document were defrayed in part by a cooperative agreement with the Centers for Disease Control and Prevention. 2,500 copies of this public document were produced at an estimated cost of \$0.45 per copy, for a total cost of \$1100.00 for printing and \$0 for distribution.